

Division of Solid and Hazardous Waste  
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### SOLID WASTE FACILITY PERMIT

Under the provisions of N.J.S.A. 13:1E-1 et seq. known as the Solid Waste Management Act, this Solid Waste Facility Permit is hereby issued to:

#### Pollution Control Financing Authority of Warren County

FACILITY TYPE:	<u>Class 1 Sanitary Landfill</u>
FACILITY NUMBER:	<u>2123001117</u>
LOT NO.(S):	<u>12, 13, 14, 15, 22</u>
BLOCK NO.(S):	<u>32</u>
LOT NO.(S):	<u>17, 18, 18.01, 18.02</u>
BLOCK NO.(S):	<u>34</u>
MUNICIPALITY:	<u>White Township</u>
COUNTY:	<u>Warren</u>
EXPIRATION DATE:	<u>December 1, 2004</u>

This Permit is subject to compliance with all conditions specified herein and all regulations promulgated by the Department of Environmental Protection as same may be amended in the future. Any references herein to specific regulations include any future amendments thereto.

This Permit shall not prejudice any claim the state may have to riparian land, nor does it allow the Permittee to fill or alter or allow to be filled or altered in any way, lands that are deemed to be riparian, wetlands, stream encroachment areas or flood plains, or that are within the Coastal Area Facility Review Act (CAFRA) zone or are subject to the Pinelands Protection Act of 1979, nor shall it allow the discharge of pollutants to waters of this state without prior acquisition of the necessary grants, permits or approvals from the Department of Environmental Protection.

Compliance with the terms of this Permit does not relieve the Applicant of the obligation to comply with all applicable state and federal statutes, rules and other permits. Failure to comply with all of the conditions specified herein may result in revocation of this Permit and/or other regulatory or legal actions which the Department is authorized to institute by law.

This Permit is non-transferable without approval from the Department pursuant to N.J.A.C. 7:26-2.7(e).

<u>September 30, 1987</u>	<u>Signed by Thomas Sherman, Assistant Director</u>
Original Date of	Thomas Sherman
Issuance	Assistant Director
	Office of Permitting and
	Technical Programs

<u>October 4, 1989</u>
First Revision Date

<u>September 21, 1990</u>
Second Revision Date

<u>April 21, 1994</u>
Third Revision Date
(Permit Renewal)

<u>October 22, 1998</u>
Fourth Revision Date

<u>December 1, 1999</u>
Fifth Revision Date
(Permit Renewal)

<u>May 18, 2001</u>
Sixth Revision Date

Solid Waste Facility Permit for Pollution Control Financing Authority of Warren County, White Township, Warren County, Facility Number 2123D.

On September 30, 1987, the Pollution Control Financing Authority of Warren County ("Authority") received from the Department a "Certificate of Approved Registration and Engineering Design Approval" for its proposed landfill. The total footprint area of the landfill is approximately 45 acres; Cells 1A, 1E, W-1 and W-2, totaling 18 acres of lined area, are constructed and operational. Cell 3, consisting of 9.7 acres, will be situated between Cells 1A and 1E on the northeast side of the landfill.

This Permit is contingent upon compliance with and implementation of the following:

**A. GENERAL CONDITIONS**

**1. Permitted Waste Types**

The following solid waste materials, as defined by waste identification (ID) numbers and defined in N.J.A.C. 7:26-2.13(g), may be accepted for disposal at the landfill:

<u>I.D.</u>	<u>Waste</u>
10	Municipal (Household, Commercial and Institutional)
13	Bulky Waste
13C	Construction and Demolition Waste
23	Vegetative Waste except leaves pursuant to N.J.S.A. 13:1E-99.21
25	Animal and Food Processing Waste
27	Dry Industrial Waste
27A	Waste material consisting of asbestos or asbestos containing waste
27I	Waste material consisting of incinerator ash or ash containing waste

**2. Prohibited Waste Types**

The following waste materials, liquid or solid, as defined by waste identification (ID) numbers and defined in N.J.A.C. 7:26-2.13(g) and (h), may not be accepted for disposal at the landfill:

<u>I.D.</u>	<u>Waste</u>
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12	Dry Sewage Sludge
72	Bulk Liquid and Semi-Liquids
73	Septic tank Clean-Out Wastes
74	Liquid Sewage Sludge

Leaves pursuant to N.J.S.A. 13:1E-99.21.

Regulated Medical Waste, Class 1 through 7, as per N.J.A.C. 7:26-3A.5.

Hazardous Waste as defined or otherwise classified in N.J.A.C. 7:26G-5.

Recyclable materials as designated in the Warren County District Recycling Plan.

### 3. Recyclables

Recyclable materials designated in the Warren County District Recycling Plan to be source separated pursuant to N.J.S.A. 13:1E-99.11 and 99.13b(2) shall not be accepted for disposal at the landfill.

Any recyclable materials described above, detected in a load of waste accepted at the facility shall be handled pursuant to the Operations and Maintenance Manual.

### 4. Haulage Vehicles

Only vehicles properly registered, pursuant to N.J.A.C. 7:26-3, with the Department, unless exempt from the registration requirements pursuant to N.J.A.C. 7:26-3.3, and displaying the appropriate registration number and solid waste decal shall be admitted for the unloading of any solid waste at the facility. The facility shall be operated in accordance with N.J.A.C. 7:26-2.11.

### 5. Waste Delivery and Haul Routes and Traffic Control

The Permittee shall ensure that all solid waste collection/haulage vehicles that access and egress the facility adhere to the mandatory truck routes specified in the Warren County Solid Waste Management Plan and described in the Operation and Maintenance Manual for the landfill. The Permittee shall post at the facility and provide photocopies detailing primary truck routes to the users of the facility.

All registered solid waste vehicles bringing waste to be either incinerated at the Resource Recovery Facility (RRF) or deposited directly at the landfill shall be routed as

follows: Route 31 to the RRF access road to the RRF. Trucks continuing to the landfill shall go from the RRF to Mt. Pisgah Avenue and head north to the landfill via Mt. Pisgah Avenue and Edison Road. When leaving the landfill, these vehicles shall be restricted to this route as well. However, this restriction shall not apply to local residents hauling solid waste in nonregistered vehicles. In order to avoid congestion, the local residents shall be permitted to use any route convenient to them as long as they comply with local ordinances and the operational procedures set by the facility.

6. On-Site Traffic Control

On-site traffic control measures shall be implemented to provide for orderly vehicle movement on the facility grounds. These measures shall include the appropriate use of lane delineations, signals and signs. All delivery trucks shall queue, as necessary, in areas designated for that purpose. All on-site roadways utilized for vehicle traffic, excepting the temporary roads on the active areas of the landfill, shall be constructed and maintained to withstand heavy traffic usage.

7. Unauthorized Waste (Revised May 18, 2001)

As detailed in the Operations and Maintenance Manual, a program shall be maintained for detecting and preventing the disposal of regulated hazardous waste and other unauthorized wastes. The program shall include the random inspections of incoming loads, recording any inspections, and training of any facility personnel to recognize regulated hazardous waste. The program shall include the following:

- a. Any truck suspected of hauling hazardous waste shall be stopped and inspected. Any vehicle found to be carrying a hazardous waste material as defined at N.J.A.C. 7:26G-5 shall not be permitted to unload at the facility.
- b. Facility personnel shall conduct continuous visual monitoring of the discharged waste. Any suspected unacceptable waste shall be removed from the processing stream.
- c. Any suspected hazardous waste, regulated medical waste, or liquids found in a load accepted at the facility shall not be returned to the generator. Such material shall be segregated and stored in a secure manner and the discovery of any such wastes at the facility shall immediately be brought to the attention of the NJDEP

using the NJDEP Environmental Action Hotline at **1-877-WARNDEP**. The Bureau of Hazardous Waste Compliance and Enforcement shall also be contacted at (609) 584-4250. In addition, the Warren County Health Department shall be contacted regarding the receipt of any suspected hazardous materials. The Permittee shall secure the name of the collector/hauler suspected of delivering such waste to the facility and related information surrounding the incident, if available, and shall make this information known to the Department's enforcement personnel.

8. Hours of Operation

The landfill is open for the disposal of solid waste from 7:00 a.m. to 4:00 p.m. Monday through Friday, and 7:00 a.m. to 11:00 a.m. Saturday. The landfill shall be closed Sundays and holidays as defined in the facility's Operations and Maintenance Manual.

The Department shall be notified of any changes in the operating hours of the facility. The entrance shall be posted with the aforementioned operating hours of the facility.

9. Vector Control

The sanitary landfill shall be operated in a manner that minimizes the propagation and harborage of insects, rodents and birds. Cover material shall be applied as needed to control vectors. An effective vector control program shall be instituted and maintained throughout the site.

If vectors still present a problem, the Permittee shall implement a program in compliance with the requirements of the New Jersey Pesticide Control Code, N.J.A.C. 7:30, by an applicator of pesticides certified in accordance with N.J.A.C. 7:30.

10. Noise Control

Noise control shall be implemented so that sound levels generated by the facility operation, including vehicles, do not exceed the standards set forth by the New Jersey Noise Control Regulations at N.J.A.C. 7:29-1.2.

The Permittee shall prevent the continued entry to the facility of any vehicle not equipped with proper operating muffler systems or those vehicles which create excessive noise.

11. Odor Control

The operation of the facility shall not cause any air contaminant, including an air contaminant detectable by the sense of smell, to be present in the outdoor atmosphere in such quantity and duration which is, or tends to be, injurious to human health or welfare, animal or plant life or property, or would unreasonably interfere with the enjoyment of life or property, except in areas over which the owner or operator has exclusive use or occupancy.

Malodorous emissions shall be controlled by the use of daily cover at the landfill. In the event that this is not satisfactory, a suitable deodorant shall be used. Malodorous solid waste shall be covered immediately after unloading with a minimum of six inches of cover material or approved alternative material.

12. Fire Safety (Revised May 18, 2001)

An adequate water supply and/or fire fighting equipment shall be readily available on-site or on call to extinguish any and all fires. In case of a fire, the Permittee shall immediately notify the local police and fire departments having jurisdiction and the NJDEP Environmental Action Hotline at **1-877-WARNDEP**. The Permittee shall be responsible for initiating and continuing fire-fighting actions until all smoldering, smoking and burning ceases. The Permittee shall seek and obtain fire-fighting assistance if smoldering, smoking or burning persists for longer than 24 hours. The Permittee shall ensure that local volunteer fire companies are thoroughly versed in the emergency plan of action for a fire at a landfill. Specific procedures are outlined in the approved Operations and Maintenance Manual for the facility.

Fire-fighting procedures and emergency procedures shall be posted prominently in the work area and shall include the telephone numbers of local fire, police, ambulance and hospital facilities.

13. Security

The existing perimeter chain link fence shall be maintained to control access to the landfill, leachate pump station and holding tank, maintenance area, weigh station, detention basins, cover material stockpile area and local user area.

Access to the site shall be restricted to facility

personnel, authorized vehicles and authorized visitors only.

Security procedures shall be implemented that provide for an effective means of controlling entry and exit at all times. Guards, attendants, visual monitors, or locked gates shall be utilized at all site entrance and exit roadways.

14. Safety Procedures

A copy of the safety procedures shall be posted prominently in the work area. The Permittee shall follow the Occupational Safety and Health Administration (OSHA) standards in the construction and operation of this facility for the safety of contractors, employees and other persons entering the premises. Appropriate facility staff shall be trained to effectively respond to any equipment malfunction or emergency situation that may arise during facility operation.

In addition, the Permittee shall require in all contracts with private contractors performing work on behalf of the Permittee in construction and operation at the facility that contractors adhere to all OSHA standards for the safety of its employees and other persons entering the premises.

15. Housekeeping

Routine housekeeping and maintenance procedures shall be implemented within the facility interior to prevent the accumulation of dust and debris on the public roads and to maintain general cleanliness in the working environment.

Litter at the landfill shall be controlled through the use of moveable fences of sufficient height or by an equivalent means. The litter fence shall be policed daily, and the litter collected shall be properly disposed of at the working face of the landfill.

Dust control at the landfill shall be affected by the spraying of water or the spreading of calcium chloride or an equivalent method approved by the Division as needed. Spraying of waste oil is prohibited.

Mud, soil, or other materials shall not be tracked onto any public roads by exiting vehicles. Effective measures shall be implemented to comply with this condition. If these measures prove ineffective in controlling soil tracking, the Permittee shall remove all soil or other materials from the tires of exiting vehicles by means of a high pressure steam (or water) cleaning apparatus combined with a rumble rack.



16. Facility Operator

Any private individual, entity or corporation selected by the Permittee to operate part or all of the facility activities shall be fully registered with the Department to conduct solid waste business in the State of New Jersey pursuant to the provisions set forth at N.J.A.C. 7:26-16.

17. Facility Personnel Training

All personnel who are directly involved in facility management activities or who operate, service or monitor any facility equipment, machinery or system shall successfully complete an initial program of classroom instruction or on-the-job training which includes instruction in the operations and maintenance of the equipment, machinery and systems which teaches them to perform their duties in a manner that ensures the facility's compliance with the requirements of N.J.A.C. 7:26 and the conditions of all Departmental permits issued to the facility.

The training program shall ensure that appropriate facility personnel are able to effectively respond to any equipment malfunction or emergency situation that may arise. The training program shall provide instruction in the use of safety equipment, procedures for inspecting and repairing facility equipment, machinery and monitoring systems and the procedures to be followed during planned or unplanned shutdown of operations.

The training program shall require constant monitoring of incoming loads and shall include instruction related to identification and proper handling of suspected unauthorized waste types. Instruction in fire training and noise monitoring shall be provided to appropriate personnel.

18. Facility Staffing

The facility shall maintain sufficient staff to ensure proper, orderly and safe operation of all materials handling, processing, monitoring and control, safety, emergency, and security equipment items. Concurrently, the level of staffing shall provide the capability to handle all routine facility maintenance requirements and also to respond to all emergency situations.

A fully trained and qualified foreman or supervisor who is designated and authorized by the Permittee to direct and implement all operational decisions shall be present at the facility during all operating hours.

19. Emergency Actions (Revised May 18, 2001)

In the event of an emergency, all measures outlined in N.J.A.C. 7:26-2A.8(b)42 shall be followed. The Department shall be notified immediately at **1-877-WARNDEP**.

20. Plans On-Site

One complete set of the approved engineering plans, the engineering reports, the final Operations and Maintenance Manual, the operations records, the environmental and health impact statement and a copy of this Permit shall be kept at the facility and shall be made available for inspection by Department personnel or its designated representatives.

21. As-Built Certification

Upon completion of construction of each phase of the landfill, certification by a New Jersey licensed Professional Engineer with expertise in civil or geotechnical engineering shall be provided as specified in N.J.A.C. 7:26-2A.7(a)20 through 24. The certification shall include a summary of daily quality control reports, all test results and two sets of as-built drawings.

No work performed under this Permit shall be considered complete until such engineer's certification has been submitted to and accepted by this Division. In the event that said certification is not received or is not accepted, the work shall be considered incomplete.

All certifications shall bear the raised seal of the licensed professional engineer, the engineer's signature, and the date of the certification. The certification shall include the following statement: "I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals under my supervision, I believe the submitted information is true, accurate and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment. I understand that, in addition to criminal penalties, I may be liable for a civil administrative penalty pursuant to N.J.A.C. 7:26-5 and that submitting false information may be grounds for denial, revocation or termination of any solid waste facility permit for which I may be seeking approval or now hold."

22. Duration of Permit

This Permit shall be effective for a maximum period of five (5) years from the date of its issuance. This Permit may be renewed at that time upon proper application, in accordance with procedures outlined in N.J.A.C. 7:26-2.7(b).

23. Right of Entry

The Permittee, by acceptance of this permit, hereby authorizes entry by Department representatives to make whatever inspections, searches, or examinations are deemed necessary by those representatives to determine the extent of compliance with any conditions of this Permit.

24. Operations Records

The Permittee shall maintain records of the facility's operations on a daily basis. The Permittee to the Division of Solid and Hazardous Waste, Bureau of Recycling and Planning shall submit monthly summaries of the records prior to the 20<sup>th</sup> day of each month following the month for which the information was recorded. The information shall include the following:

- a. The tonnages and types of solid waste received by origin from each county (including municipality) and out-of-state source;
- a. The tonnage of each waste type removed for disposal and the facility receiving the waste; and,
- b. The tonnages, types (as described in Condition No. A.1 of this Permit) and origin (by county and municipality) of all recyclable materials delivered off-site during the reporting period and the destination/market of such materials.

Where applicable, the information required to be recorded in the daily record shall be supplied by the transporter to the facility operator on the waste origin/disposal (O&D) form (or duplication of same). The O&D forms shall be kept by the Permittee for a minimum of one year and shall make them available for inspection by representatives of the Department and shall be submitted to the Department upon request. The information provided on the daily records, O&D forms and monthly summary shall denote compliance with N.J.A.C. 7:26-2.13.

25. Soil Erosion and Sediment Control

Prior to construction of each new phase, the Permittee shall submit an updated copy of certification from the Warren County Soil Conservation District of the Soil Erosion and Sediment Control Plan for this facility. The Permittee shall comply with all requirements of the certified plan. All soil and sediment control practices shall be installed in their proper sequence and be regularly maintained.

**B. SANITARY LANDFILL**

**I. DESIGN AND CONSTRUCTION**

Cells 1A, 1E and W1/W2 are constructed and operational. This permit authorizes the construction and operation of Cell 3. Where applicable, design requirements for future cell (4 and 5) construction are referenced herein.

**1. Landfill's Liner System Profile**

The double composite liner profile for Cell 3, in descending order, shall be as follows:

- A 24 inch drainage layer consisting of free-draining, non-carbonate sand or crushed rock with a minimum hydraulic conductivity of  $1 \times 10^{-2}$  cm/sec after compaction. This drainage layer shall contain six-inch SDR 17 PVC slotted primary collection pipes to convey leachate to the headers and manholes.
- A primary geomembrane liner consisting of a textured HDPE geomembrane possessing a nominal thickness of 60 mils.
- A primary geosynthetic clay liner (GCL) having a thickness of approximately  $\frac{1}{4}$  inch and a maximum hydraulic conductivity of  $5 \times 10^{-9}$  cm/sec. The geosynthetic clay liner will consist of a layer of sodium montmorillonite (bentonite) sandwiched between two layers of geotextile.
- A secondary leachate collection/detection layer consisting of a geocomposite drain, a layer of HDPE geonet bonded between two layers of non-woven geotextile.
- A secondary geomembrane liner consisting of a textured HDPE geomembrane possessing a nominal thickness of 60 mils.
- A secondary geosynthetic clay liner (GCL) having a thickness of approximately  $\frac{1}{4}$  inch and a maximum hydraulic conductivity of  $5 \times 10^{-9}$  cm/sec. The geosynthetic clay

liner will consist of a layer of sodium montmorillonite (bentonite) sandwiched between two layers of geotextile.

- A subgrade stabilization layer (see Condition B.I.3 of this Permit).
- A compacted subgrade.

The minimum slopes of the liner shall be 2% on controlling slopes and 0.5% on remaining slopes.

The geosynthetic clay liner (GCL) material used in the landfill baseliner shall meet the required permeability as specified above. The GCL shall also demonstrate adequate interface and internal shear strength under static as well as seismic conditions. Prior to construction, all geosynthetic materials shall be tested using the shear box method to verify that the minimum friction angles are utilized in accordance with the slope stability analyses appended in the engineering design report referenced at Condition B.14 of this Permit. The GCL shall be maintained in a dry state up to and including the time that it is covered by the geomembrane. Random sampling of the GCL during manufacturing shall be performed to ensure proper quality control. The samples shall be tested for properties including, but not limited to, uniformity, thickness, bentonite weight, tensile properties, permeability and interface shear strength in conformance with the applicable ASTM Standards and the approved Technical Specifications Report for Cell 3 construction. The quality control engineer shall review the certified copies of the manufacturer's test results and report any nonconformance to the Permittee prior to installation of any GCL.

The geomembrane liners shall be of high quality materials and shall meet the minimum requirements as outlined in the most recent version of the National Sanitation Foundation's publication entitled "Standard Number 54 Flexible Membrane Liners". The geomembrane shall be compounded from first quality virgin materials. No regrinded or reprocessed materials containing encapsulated scrim shall be used in the manufacturing of the geomembrane. During field seaming, a destructive seam test sample shall be prepared for every 500 feet (or as otherwise approved by the Division for that particular construction event) of field seam. All samples shall be tested for peel and shear strength. Seams shall be stronger than the liner.

All tests performed during the construction and installation of the landfill's baseliner system shall be in accordance

with ASTM, AASHTO or equivalent methods. All test results shall be submitted to this Division along with a New Jersey Licensed Professional Engineer's certification in accordance with Condition A.21 (As-Built Certification) that the liner has been constructed in accordance with this Permit.

2. Leachate Collection/Detection Systems and Removal

Two leachate collection/conveyance systems are included in the approved engineering design. The primary collection system, shown on Drawing Nos. 3 and 4, dated September 9, 1998 and prepared by EMCON, shall be above the primary composite liner, and shall consist of 6-inch perforated laterals connected to 8-inch solid header pipes located adjacent to the existing operational berms for Cells 1A, 1E and W1/W2.

The secondary collection system, or leak detection system, shown on the aforementioned drawings, shall have the same configuration as the primary collection system and shall be above the secondary composite liner. The secondary system would collect leachate in the event of leakage through the primary composite liner. The pipe used in both primary and secondary leachate collection systems shall be slotted SDR 17 PVC pipe. The 6-inch primary and secondary leachate collection laterals, in addition to the subgrade stabilization layer laterals, shall be constructed in a lateral trench system, as shown on Detail 1 of Drawing 4 prepared by EMCON, dated September 9, 1998.

As shown on the approved design, primary and secondary leachate collection pipe cleanouts shall be constructed and maintained to facilitate pipe inspections and cleaning. Leachate from the collection systems shall be piped to the leachate holding tank, and then to the leachate pumping station. In the event of a pump failure or other emergency, an auxiliary submersible pump in the holding tank shall be used to pump leachate from the tank to tanker trucks for transport off-site to a treatment facility, as provided for in the approved design.

Leachate disposal may occur as follows:

- I. From the pump station, the leachate shall be transported by a 4-inch diameter, PVC force main to the lift station at the resource recovery facility (RRF). The leachate shall be combined with the waste water from the RRF and shall be pumped to the local collection system which will carry it to the Pequest

River Municipal Utilities Authority (PRMUA) Oxford  
Township Waste Water Treatment Plant.

II. In the event the above method is not permissible:

- a. Leachate may be transported by tanker trucks, as described above, to an appropriately licensed Industrial Treatment Facility, or;
- b. Leachate may be transported by tanker trucks, as described above, to an alternate Publicly Owned Treatment Works (POTW) Facility.

3. Subgrade Stabilization Layer

In continuation with the previously constructed subgrade stabilization layer for Cells 1A, 1E and W-1/W-2, a subgrade stabilization layer for Cell 3 shall be constructed in accordance with Drawing No. 2 and 4, prepared by EMCON, dated September 9, 1998. To facilitate ease of construction, the subgrade stabilization layer shall be constructed in areas of isolated zones of pervious materials within consistently low permeable soils. The subgrade stabilization layer shall consist of 6 inch slotted SDR 17 PVC pipe within 12 inches of granular material blanket drain. The laterals shall be connected to a 6 inch slotted SDR 17 PVC pipe which will convey water collected in the subgrade stabilization layer to the monitoring sump. A filter fabric shall be placed between the granular material blanket drain and subgrade.

Water collected in the subgrade stabilization layer shall be discharged to Detention Basin 1 or Detention Basin 2. Should the weekly inspection of the secondary collection system (see Condition C.4 of this Permit) reveal the presence of effluent in the leak detection system, monitoring of the water collected from the sump connecting to the subgrade stabilization layer shall commence immediately. The parameters to be analyzed and frequency of monitoring shall be in accordance with the NJPDES Permit (see Condition B.5 of this Permit), Part III-B/C for the monitoring of discharges from the detention basins. Should the quality of water from the subgrade stabilization layer not satisfy the quality limits established in Part III-B/C of the NJPDES Permit, the water shall be conveyed to the leachate collection system for treatment and disposal.

4. Final Cover

As shown on Drawing No. D-1, prepared by Killam Associates dated April 1, 1998, the final cover profile, from top to

bottom, shall be as follows:

Option 1:

- A 6 inch layer of vegetation bearing top soil.
- A 12 inch layer of cover soil.
- A 12 inch layer of drainage sand
- A 40 mil textured Linear Low Density Polyethylene (LLDPE) geomembrane.
- A geotextile fabric.
- A 12 inch layer of clean granular soil directly overlying the refuse layer.

Option 2:

- A 6 inch layer of vegetation bearing top soil.
- A 24 inch layer of cover soil.
- A double-sided geocomposite geonet
- A 40 mil textured Linear Low Density Polyethylene (LLDPE) geomembrane.
- A geotextile fabric.
- A 12 inch layer of clean granular soil directly overlying the refuse layer.

5. Ground and Surface Water Monitoring

A ground water monitoring system shall be maintained in conformance with a valid New Jersey Pollutant Discharge Elimination System (NJPDES) permit issued in accordance with N.J.A.C. 7:14A-1 et. seq., or an equivalent ground water monitoring program that complies with RCRA Subtitle D 40 CFR part 258.

Surface water discharges at the landfill shall be in accordance with the approved NJPDES Discharge to Surface Water (NJPDES/DSW) Permit.

6. On-Site Baseline



In accordance with N.J.A.C. 7:26-2A.7(a)2, the on-site baseline consisting of two vertical and horizontal control monuments shall be maintained.

7. Landfill Gas Venting and Monitoring

A landfill gas passive venting system shall be constructed to control malodorous gas emissions and to prevent the migration of landfill gases off-site. An Air Pollution Control permit shall be obtained prior to the construction of the landfill gas venting system pursuant to N.J.A.C. 7:27-8.2(a)16.

Gas vents shall be installed at 100 foot intervals along the level shelves on the landfill slope, as shown on the final grading plan, Drawing C-16 of the approved engineering design. These vents shall be installed at the time that final cover is applied. Construction of the vents shall be in accordance with the specifications shown on revised Drawing No. D-1, prepared by Killam Associates, dated April 1, 1998.

The construction, operation and monitoring of the landfill gas venting system shall satisfy the federal New Source Performance Standards and Emission Guidelines (NSPS/EG) set forth at 40 CFR Parts 51, 52 and 60; otherwise, an upgraded system may be required.

Quarterly methane gas monitoring shall be performed at gas monitoring wells, temporary sampling points along the perimeter of the landfill and internal locations within structures at the solid waste facility complex, as described in the Operations and Maintenance Manual for the facility. The results shall be recorded on the approved methane gas monitoring data sheet and forwarded to this Division on a quarterly basis.

8. Landfill Service Capacity (Revised May 18, 2001)

**The area of the landfill's waste fill limits shall be approximately 45 acres, as shown on Drawing No. S-1 entitled "Final Grading Plan", prepared by Killam Associates, last revised on December 13, 2000. Disposal of waste shall be limited to this area. Final elevations shall not exceed those shown in the final grading plan.**

9. Updated Design Submittal for New Phase Construction

An updated design for new phase construction shall be

submitted to this Division a minimum of six months prior to anticipated start-up of construction activities.

10. Quality Assurance/Quality Control (QA/QC)

The Permittee shall submit an updated QA/QC plan at least 90 days prior to new phase construction, in accordance with N.J.A.C. 7:26-2A.5(a)7. Quality control inspectors shall be at the site during construction to ensure and verify that the design and permit requirements are properly implemented.

A quality assurance inspector approved by the Department shall be at the site during the initial construction phase of the subgrade preparation, liner system and leachate collection system. The inspector shall oversee the remainder of this work on a periodic basis as necessary. The quality assurance inspector shall conduct this work independent of the resident QA/QC team. The scheduled frequency of inspections by the independent quality assurance inspector may be reduced or discontinued by the Department in accordance with N.J.A.C. 7:26-2A.7(a)15.

At least 30 days prior to the start of construction, the quality assurance inspector shall meet with the Department to establish reporting procedures and frequency, in accordance with the construction schedule.

The resident QA/QC team shall ensure that all Quality Assurance and Quality Control procedures are followed pursuant to Departmental guidelines as stated in the Solid Waste regulations, N.J.A.C. 7:26-1 et seq., in the construction of the landfill.

11. Referenced Engineering Plans (Revised May 18, 2001)

The construction and operation of this facility shall be in accordance with the provisions of N.J.A.C. 7:26-1 et seq., and the following design reports and engineering plans. In case of conflict, the conditions of this Permit shall supersede those of the engineering plans. These documents are listed in historical order, with the most recent submissions listed last.

- A. Preliminary Engineering Report, Geohydrologic Report, Final Environmental and Health Impact Statement and the corresponding Response Documents subsequently prepared by Metcalf and Eddy, dated January 1987, and engineering drawings C-1 to C-39, A-1 to A-3, S-1 to S-6, M-1 to M-2, HP-1 to HP-3, E-1 to E-6 and I-1 to I-2, prepared in April 1987, signed and sealed by Thomas Baxter, P.E. These initial design documents were for

Phases I, II and III of the landfill (original phase layout now obsolete).

- B. Registration Modification documents, dated February 1989 and March 1989, prepared by Wehran Engineering Corporation (now known as Wehran EnviroTech) and Drawings 1-14, dated June 23, 1989, signed and sealed by Richard A. Peluso. These submittals were for the design and construction of Cell 1A.
- C. Operations and Maintenance Manual, dated June 1990, prepared by Wehran EnviroTech.
- D. Updated Technical Specifications for Cell 1E were submitted by Wehran EnviroTech, dated July 18, 1990. Cell 1E Design Drawings 1 - 12, dated June 25, 1990 and revised on July 18, 1990, signed and sealed by Richard A. Peluso, P.E.
- E. Design Drawings for Administration Building, Sheets 1-7, dated December 1992, prepared by Keller & Kirkpatrick, Inc., signed and sealed by Stanley Omland, P.E. with appurtenant drawings L-1 to L-2 and A-1 to A-3.
- F. Permit Renewal Application consisting of CP-1 form, Addendum to EHIS, Final Fault Investigation Report, Preliminary Piezometer Report, Preliminary Slope Stability Report and Addendum to existing Operations and Maintenance Manual, prepared by Golder Associates, dated September 29, 1992.
- G. Permit Modification Application for Cells A-1 and W-1/W-2, Volumes 1 and 2, dated March 1993, prepared by Golder Associates and Figures 1 - 15, excepting Figures 8 and 9, signed and sealed by Matthew Leonard, P.E., dated March 12, 1993.
- H. Figure 8, revised on January 21, 1994, showing Final Elevation Contours, signed and sealed by Matthew Leonard, P.E.
- I. Figure 9, revised on February 14, 1994, showing Interim Filling Grades, signed and sealed by Matthew Leonard, P.E.
- J. Application for Approval of Vertical Expansion consisting of appendices, dated April 1998, prepared by Killam Associates, and Drawings S-1, S-6, D-1, D-2, and P-1, signed and sealed by Robert J. Lynes, P.E. Drawings S-6 and P-1 are excluded from the approved

engineering design except for depictions showing 3:1 exterior side slopes.

- K. Permit Modification Application for Cell 3, consisting of Engineering Design Report, dated September 1998, prepared by EMCON and Drawings 1-7, signed and sealed by Mark Swyka, P.E. Technical Specifications for the Construction of Cell 3 are included as an attachment to the Engineering Design Report.
- L. Solid Waste Facility Permit Renewal Application accompanied by letter dated November 9, 1998 prepared by Pollution Control Financing Authority of Warren County.
- M. **Final Grading Plan, dated December 13, 2000, prepared by Killam Associates, signed and sealed by Robert J. Lynes, P.E. The Final Grading Plan is accompanied by volumetric calculations submitted by letter dated February 22, 2001 prepared by M. Brendan Mullen, P.E.**

12. Mitigation of Impact on Wildlife

A final plan for mitigation of impact on wildlife was developed by Metcalf and Eddy, Inc. on July 12, 1988. The plan specified habitat enhancement in the buffer zones surrounding the active disposal area, proper closure and post-closure maintenance of the landfill, and inclusion of the property into the Warren County Park System. Any revision to the design and schedules for these wildlife mitigative measures are subject to approval by the Division of Fish, Game and Wildlife.

II. OPERATIONS, MAINTENANCE AND MONITORING

1. Final (Updated) Operations and Maintenance Manual

The Final Operations and Maintenance (O&M) Manual shall be updated and shall contain, in full, all relevant procedures for the operations and maintenance of succeeding cells. The updated Operations and Maintenance Manual shall be submitted to the Department 30 days prior to initiation of full-scale operations of the landfill for each succeeding cell. References to other manuals shall not be used in place of a full listing of Operations and Maintenance Manual procedures.

2. Inspection, Operation and Maintenance Schedules

The following shall be performed on a daily basis:

- Record leachate flows in the primary and secondary collection systems
- Inspect leachate pumping systems
- Inspect leachate storage tank
- Inspect methane gas venting system (when installed)
- Record precipitation
- Police buffer areas, site entrance and adjacent roadways for litter
- Inspect storm water sedimentation and detention basins
- Inspect truck scale for debris, ice, damage
- Record solid waste flow
- Record running hours for equipment

The following shall be performed on a weekly basis:

- Inspect all environmental control systems
- Inspect primary and secondary collection system manholes and cleanout risers
- Check and record depth to water level in manhole for subgrade stabilization layer
- Change leachate flowmeter chart
- Inspect ground monitoring water wells for exterior damage
- Inspect the cover and drainage swales
- Inspect pump station equipment and force main
- Check site lighting
- Inspect local user area for damage

The following shall be performed after storm events:

- Inspect all environmental control systems
- Inspect sedimentation and detention basins and surface runoff structures
- Inspect leachate collection pipes, manholes and cleanout risers
- Inspect the cover and drainage swales
- Inspect pump station and force main

The following shall be performed on a quarterly basis:

- Conduct methane gas survey around perimeter of the buffer zone of active landfill areas
- Inspect portable fire extinguishers
- Perform inclinometer readings

The following shall be performed on an annual basis:

- Perform topographic survey of landfill
- Inspect leachate storage tank for leaks
- Conduct methane gas survey around perimeter of the buffer zone of the sanitary landfill
- Inspect and test leachate collection pipes
- Inspect emergency equipment

The following shall be performed biennially:

- Survey the baseline vertical and horizontal control monuments
- Overhaul leachate pumping system

In addition to the above, inspection, operation and maintenance of other aspects of the facility shall be performed, as necessary, in order to meet the terms of this Permit and all applicable regulations.

The Permittee shall record the results of the inspections in a bound log book which shall be maintained at the sanitary landfill office and be available, at all times, for inspection by the Department. These records shall include the date and time of the inspection, the name of the inspector, a notation of observations and recommendations, and the date and nature of any repairs or other remedial action.

### 3. Waste Disposal Methods

The working face shall be confined to the smallest practical area, as is consistent with the proper operation of trucks and equipment, in order that the area of waste material exposed during the operating day is minimized. The maximum working face width shall not exceed 150 feet. At no time shall the area of exposed waste be greater than 15,000 square feet. The lift height of a daily cell, including cover soil, shall not exceed 12 feet. Waste shall be compacted in 2 foot layers. The maximum working face slope shall not exceed 3:1 (horizontal to vertical).

Bulky waste and any sharp or penetrating objects shall not be disposed of in the first four feet of the initial lift in each landfill cell.

### 4. Cover Requirements

Daily and intermediate cover shall be of the types that can

be workable under all weather conditions.

A sufficient quantity of cover material shall be available at all times to ensure proper operation of the landfill. At the end of each day, at least 6 inches of soil, as daily cover, shall be placed on areas of the solid waste workface that will be exposed for less than 24 hours. Alternatively, the Permittee may use a geomembrane as a daily cover material. The geomembrane shall be placed on all exposed waste and secured with weighted materials such as tires or sandbags. At the close of each week, the geomembrane panels shall be removed. In all cases a twelve inch depth of intermediate cover shall be applied to all surfaces exposed for any period exceeding 24 hours.

The landfill is to be constructed and operated in phases. Final cover, as defined in Condition B.I.4 of this Permit, shall be applied to each phase within six months of the date that waste disposal operations cease in that phase. Final elevations of each cell, including cover material, shall not exceed those shown on the approved final grading plan.

5. Surface Water Control

The grade and thickness of cover material on all surfaces of the facility shall be maintained regularly so as to prevent the occurrence of ponding of water anywhere on the active landfill area except in designated stormwater control ponds.

All provisions of the drainage plans as indicated in the approved engineering design shall be implemented. The channels and drainage structures shall be regularly maintained. Any drainage from the active landfill area shall be such as not to cause siltation.

6. Settlement Monitoring

Settlement monitoring points shall be installed at 400 foot intervals, along the level shelves on the landfill slope as shown on Drawing C-16 of the approved engineering design. These monuments shall be installed at the time that final cover is applied. Upon completion of the construction of Cell 1A, three inclinometers were installed along the downgradient toe of slope, at locations shown on this drawing. The monitoring points and inclinometers were constructed in accordance with the specifications shown on Detail C-12.

All settlement monitoring points shall be surveyed for horizontal and vertical locations when installed. These shall be resurveyed, and inclinometer readings shall be taken, at frequencies specified in the Operations and

Maintenance Manual. A report shall be submitted within thirty days of the date of the field work, which states, for each monitoring point, all horizontal and vertical readings taken up to that time, and the date of each reading. This report shall also provide all readings taken at the three inclinometers, and the date of each reading.

7. Closure and Post-Closure Plan

The Permittee shall comply with the requirements of N.J.A.C. 7:26-2A.9 for the closure and post-closure care of this facility. Failure to comply with the requirements of any closure plan approval issued from the Department may result in the revocation of this Permit.

8. Summary of Required Submittals

The following information shall be submitted to the Bureau of Landfill and Recycling Management, Division of Solid and Hazardous Waste, of this Department:

<u>Document</u>	<u>Due Date</u>
a) Recordings of leachate head levels	quarterly
b) Perimeter gas monitoring results	quarterly
c) Leachate flow monitoring results	quarterly
d) Daily precipitation summary	quarterly
e) Topographic survey and report	annually (prior to May in Accordance with 7:26-2A.8(i))
f) Closure and Financial Plan Two Year Update	biennially

Failure to comply with any or all limitations heretofore mentioned will result in the Department seeking relief under N.J.S.A. 13:1E-1 et seq., the Solid Waste Management Act. Specifically, each day of failure to so comply shall constitute a separate violation on the basis of which a penalty shall be assessed and may result in loss of operating authority pursuant to N.J.S.A. 13:1E-12. This Permit is contingent upon compliance with all local, state, federal laws and regulations.

The issuance of this Permit and the conditions of operation identified herein shall not be interpreted as relieving the



Permittee of its responsibility to secure and maintain all other applicable federal, state and local permits or similar forms of authorization relating to the construction and operation of this facility.

MS/ms